

What is claimed is:

- 1 1. In a circuit arrangement having a CPU circuit communicating with another device
2 over a communication channel, a method of monitoring signals on the communication
3 channel, comprising:
 - 4 providing a reconfigurable circuit coupled to the communication channel;
 - 5 using the CPU circuit to configure the reconfigurable circuit for monitoring a first
6 event type occurring on the communication channel;
 - 7 in the reconfigurable circuit, collecting signals passed on the communication channel
8 and reporting back to the CPU circuit data indicative of the first event type occurring on the
9 communication channel; and
 - 10 in response to the data indicative of the monitored event, using the CPU circuit to
11 reconfigure the reconfigurable circuit to monitor for another event type occurring on the
12 communication channel and, thereafter, collecting and evaluating signals passed on the
13 communication channel for the other event.
- 1 2. The method of claim 1, further including using the CPU circuit to evaluate and
2 redirect data over the communication channel as a function of and in response to the data
3 indicative of the monitored event.
- 1 3. The method of claim 1, wherein the reconfigurable circuit includes a register circuit
2 adapted to respond to configuration data by presenting signals corresponding to expected
3 events to be monitored on the communication channel and further including comparing the
4 collected signals with the signals corresponding to the expected events.
- 1 4. The method of claim 3, further including counting the expected events and
2 interrupting the CPU circuit in response to the collected signals matching the expected
3 signals.
- 1 5. The method of claim 1, further including interrupting the CPU circuit in response to
2 the data indicative of the monitored event detected by the reconfigurable circuit.

1 6. The method of claim 1, wherein the reconfigurable circuit includes a programmable
2 processor.

1 7. The method of claim 1, wherein providing a reconfigurable circuit adapted to measure
2 at least one event type occurring on the communication channel includes configuring the
3 reconfigurable circuit to count said at least one event.

1 8. The method of claim 1, wherein providing a reconfigurable circuit adapted to measure
2 at least one event type occurring on the communication channel includes configuring the
3 reconfigurable circuit to time the duration of said at least one event.

1 9. The method of claim 1, wherein the first event type and the other event type are
2 different types of events occurring on the communication channel.

1 10. The method of claim 1, wherein the first event type and the other event type are the
2 same types of events occurring on the communication channel.

1 11. The method of claim 1, further including using the CPU circuit to evaluate the data
2 indicative of the monitored event type before reconfiguring the reconfigurable circuit.

1 12. A circuit arrangement, comprising:
2 a reconfigurable circuit coupled to the communication channel and adapted to collect
3 signals passed on the communication channel;
4 a CPU circuit adapted to communicate with another device over a communication
5 channel and adapted to configure the reconfigurable circuit for monitoring a first event type
6 occurring on the communication channel, wherein the reconfigurable circuit is adapted to
7 respond to the CPU circuit by monitoring for the first event type occurring on the
8 communication channel and by reporting back to the CPU circuit data indicative of the first
9 event; and

10 the CPU circuit further adapted to respond to the data indicative of the monitored
11 event type by reconfiguring the reconfigurable circuit to monitor for another event type
12 occurring on the communication channel and, thereafter, collect and evaluate signals passed
13 on the communication channel for the other event.

1 13. The circuit arrangement of claim 12, wherein the reconfigurable circuit includes a
2 counter.

1 14. The circuit arrangement of claim 12, wherein the reconfigurable circuit includes a
2 circuit adapted to decode configuration data by presenting expected signals corresponding to
3 events to be monitored on the communication channel and a comparator circuit adapted to
4 compare the collected signals with the expected signals.

1 15. The circuit arrangement of claim 14, further including interruption means for
2 interrupting the CPU circuit in response to the collected signals matching the expected
3 signals.

1 16. The circuit arrangement of claim 12, further including interruption means for
2 interrupting the CPU circuit in response to the collected signals matching the expected
3 signals.

1 17. The circuit arrangement of claim 12, wherein the CPU circuit includes means for
2 polling the reconfigurable circuit to enable the CPU circuit to read the data indicative of the
3 first event.

1 18. The circuit arrangement of claim 12, wherein the first event type and the other event
2 type are different types of events occurring on the communication channel.

1 19. The circuit arrangement of claim 12, wherein the first event type and the other event
2 type are the same types of events occurring on the communication channel.

1 20. The circuit arrangement of claim 12, wherein the CPU circuit is further adapted to
2 evaluate the data indicative of the monitored event.

1 21. The circuit arrangement of claim 12, wherein the CPU circuit is further adapted to
2 redirect data over the communication channel as a function of and in response to the data
3 indicative of the monitored event.

1 22. A circuit arrangement, comprising:
2 reconfigurable means, coupled to the communication channel, for collecting signals
3 passed on the communication channel;
4 CPU means for communicating with another device over the communication channel
5 and for configuring the reconfigurable means for monitoring a first event type occurring on
6 the communication channel, the reconfigurable means also for responding to the CPU means
7 by monitoring for the first event type occurring on the communication channel and by
8 reporting back to the CPU means data indicative of the first event; and
9 the CPU means also for responding to the data indicative of the monitored event type
10 by reconfiguring the reconfigurable means to monitor for another event type occurring on the
11 communication channel and, thereafter, collect and evaluate signals passed on the
12 communication channel for the other event type.

1 23. A circuit arrangement, comprising:
2 reconfigurable circuit, coupled to the communication channel, for collecting signals
3 passed on the communication channel;
4 CPU means for communicating with another device over the communication channel
5 and for configuring the reconfigurable circuit for monitoring a first event type occurring on
6 the communication channel, the reconfigurable circuit also for responding to the CPU means
7 by monitoring for the first event type occurring on the communication channel;
8 interruption means, coupled to the reconfigurable circuit, for interrupting the CPU
9 circuit in response to the collected signals matching the expected signals; and
10 the CPU means also for responding to the interruption means by reconfiguring the
11 reconfigurable circuit to monitor for another event type occurring on the communication

12 channel and, thereafter, collect and evaluate signals passed on the communication channel for
13 the other event type.

1 24. The circuit arrangement of claim 23, wherein the CPU means includes means for
2 evaluating the data indicative of the monitored event.

1 25. The circuit arrangement of claim 23, wherein the CPU means includes means for
2 redirecting data over the communication channel as a function of and in response to the data
3 indicative of the monitored event.

1 26. The circuit arrangement of claim 23, wherein the reconfigurable circuit includes
2 multiple comparators for monitoring different events concurrently.

1 27. The circuit arrangement of claim 26, further including multiple counters, each of said
2 counters being responsive to a respective one of said multiple comparators.